

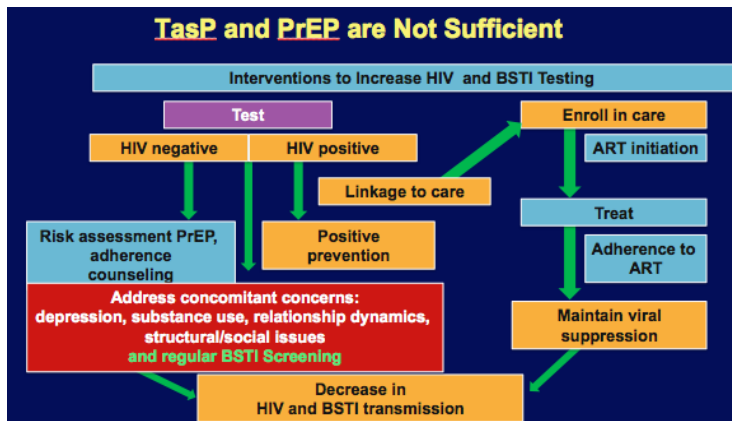
# *HIV Infection and PrEP Use are Independently Associated with Increasing Diagnoses of Bacterial Sexually Transmitted Infections (BSTI) in Men Accessing Care at a Boston Community Health Center (CHC): 2005-2015*

Reported by Jules Levin  
IDWeek 2016 Oct 26-30 New Orleans

**IDSAs: Meta-Analysis Sees Much Higher STI Risk in MSM On vs Not On PrEP\_-- (10/31/16)**

## Conclusions

- PrEP use or being HIV infected were independently associated with increasing BSTI rates in a Boston CHC over the past decade.
- BSTI were more common among men of color and/or those without stable health insurance.
- It is also notable that many HIV-uninfected patients with new BSTI were not on PrEP
- ↑ BSTI screening and PrEP education is warranted for high risk patients in primary care.



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HIV Infection and PrEP Use Are Independently Associated with  
↑ Diagnoses of Bacterial Sexually Transmitted Infections in Men  
Accessing Care At A Boston Community Health Center  
2005-2015



KH Mayer, KM Maloney, K Levine, D King,  
C Grasso, D Krakower, SL Boswell  
IDSAs, New Orleans, October 29<sup>th</sup>, 2016

[thefenwayinstitute.org](http://thefenwayinstitute.org)



Program abstract:

**Background:** As HIV has become a chronic manageable infection, and the efficacy of pre-exposure prophylaxis (PrEP) has been demonstrated, concerns have been raised that decreasing condom use might be associated with increasing rates of BSTI. Analysis of trends in specific groups of patients acquiring new BSTI may enhance clinician awareness of whom will benefit from more frequent screening.

**Methods:** Fenway Health, an urban CHC, provides primary and HIV, STI and LGBT specialty care to more than 27,000 patients annually, and has used an electronic health record since 1997. To assess secular trends in BSTI diagnoses, multivariable Cox proportional hazards models were fit, controlling for participant age.

**Results:** Between 2005 and 2015, 19,238 men had at least one clinic visit. Most (74.2%) were White, 6.3% Black, and 9.7% Latino. Almost half were gay (42.7%), bisexual (3.2%), but 52.5% did not report a sexual orientation. Most had private health insurance (61.7%); 5.4% had Medicare, 4.6% had Medicaid, 8.4% reported no insurance, and for 16.0% insurance was unknown. HIV prevalence was 14.7%. In 2011, 5 initiated PrEP, compared to 960 in 2015; 7.2% of all men were prescribed PrEP (14.2% of men seen in 2015). Between 2005 and 2015, 17.5% were diagnosed with at least one BSTI; 7.1% acquired syphilis, 7.3% acquired gonorrhea (3.0% rectal, 4.0% urogenital), and 9.0% acquired chlamydia (4.2% rectal, 5.6% urogenital). In 2015, 13.9% of HIV-infected patients and 24.8% of PrEP patients were diagnosed with at least one BSTI. In age-adjusted multivariable analyses, the following characteristics were independently associated with acquiring a new BSTI:

<b>Hazard Ratio (HR) Associated with Diagnosis of a New BSTI</b>			
<b>Variable</b>	<b>HR</b>	<b>95% C.I.</b>	
HIV Infection	2.66	2.43	2.92
PrEP Use	3.43	3.07	3.83
Black	1.40	1.23	1.60
Multiracial	1.45	1.18	1.77
Medicaid	1.25	1.06	1.47
Uninsured	1.23	1.02	1.48
Insurance status unknown	2.32	1.94	2.76
Time Trend: 2005- 2009 (one year intervals) 2010-2015	0.97 1.36	0.94 1.25	1.01 1.48

**Conclusion:** PrEP use and HIV infection were each associated with increasing BSTI rates in a Boston CHC over the past decade. BSTI were more common among men of color and/or those without stable health insurance. Increased BSTI screening and education is warranted for patients in these subgroups.

## Background

- HIV is a chronic manageable infection, which should be treated as soon as feasible (DHHS, 2016)
- Virologic suppression is associated with decreased HIV transmission (Cohen, 2016; Rodger, 2016)
- The efficacy of PrEP for primary prevention has been demonstrated (multiple studies)
- But, concerns have been raised that individuals who feel they are not likely to transmit or acquire HIV might ↓ condom use, which might be associated with ↑ rates of bacterial STI (BSTI).
- Analysis of trends in BSTI epidemiology may enhance clinician awareness of those who could benefit from frequent screening and counseling.

### FENWAY HEALTH

- Independent 501(c)(3) FQHC
- Mission: To enhance the wellbeing of the LGBT community as well as people in our neighborhoods and beyond through access to the highest quality health care, education, research and advocacy
- Provides primary, HIV, STI and LGBT specialty care to more than 30,000 patients annually



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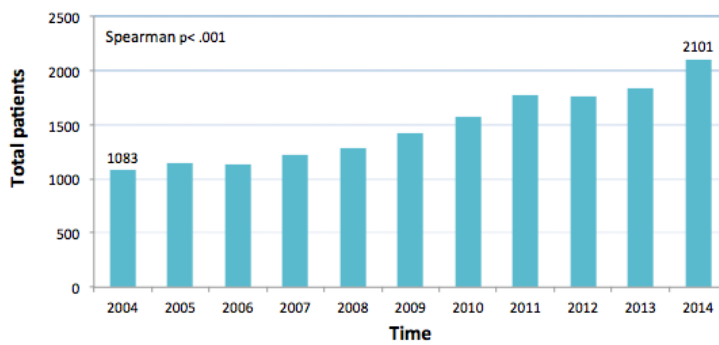
## Background and Methods

- Fenway Health has used an electronic health record since 1997 (Centricity<sup>TM</sup>).
- Has been the largest center for primary HIV care and BSTI diagnoses among MSM in Massachusetts
- Has conducted PrEP research for more than a decade and is the largest PrEP prescribing center in New England
- To assess secular trends in HIV and BSTI diagnoses, multivariable Cox proportion hazard models were fit, using acquired-age as the time scale.

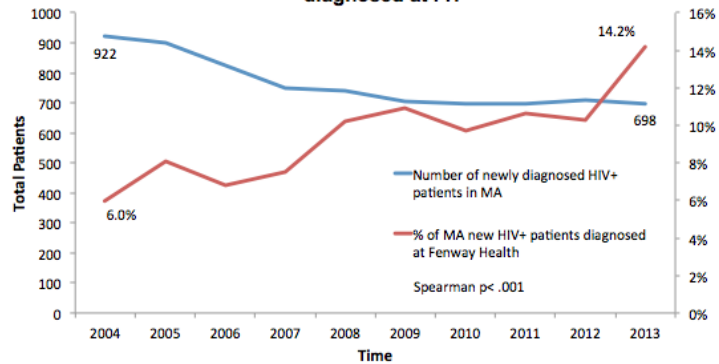
## Sociodemographics

- Between 2005 and 2015, 19,238 men had at least one clinic visit
- 74.2% were White, 6.3% Black, and 9.7% Latino.
- 42.7% described themselves as gay, 3.2% bisexual, but 52.5% did not report a sexual orientation.
- 61.7% had private health insurance; 5.4% had Medicare, 4.6% had Medicaid, 8.4% reported no insurance, and for 16.0% insurance was unknown.
- HIV prevalence was 14.7%.

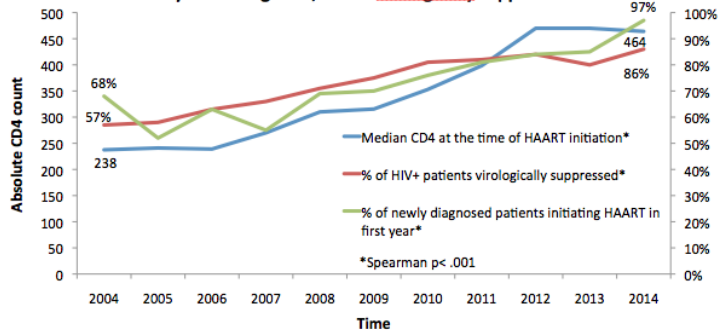
**HIV-Infected Patients in Primary Care at Fenway Health**



**Newly diagnosed HIV-infected patients in Massachusetts and % diagnosed at FH**



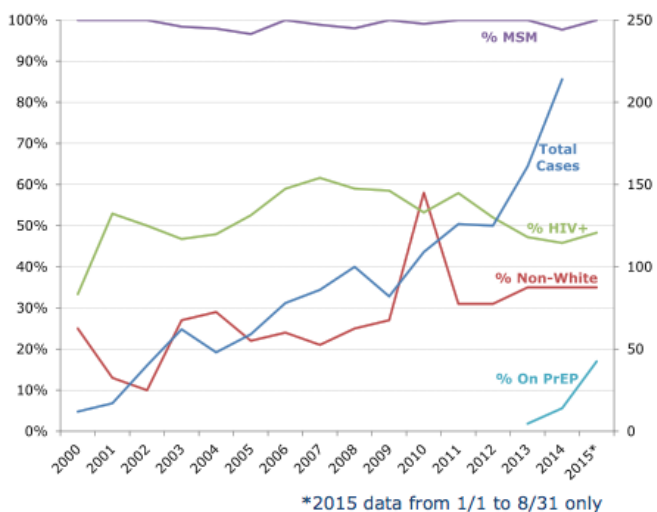
**Median CD4 at time of HAART initiation, % initiating HAART within first year of diagnosis, and % virologically suppressed.**



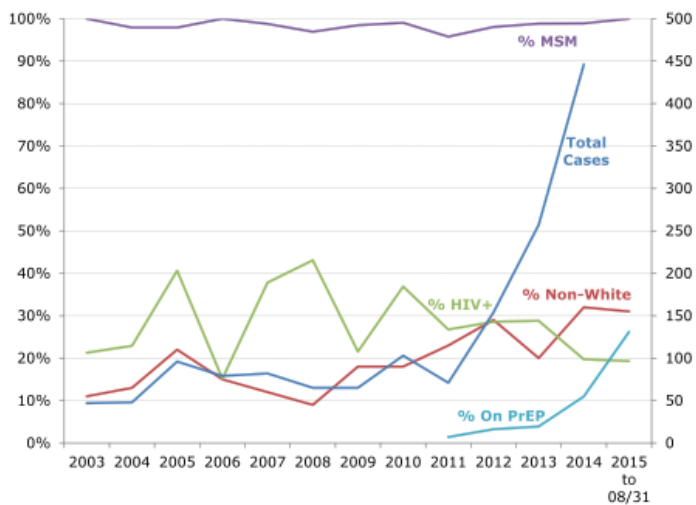
## PrEP Use and BSTI

- In 2011, 5 initiated PrEP, compared to 960 in 2015
- 14.2% of all men seen in 2015 were prescribed PrEP.
- Between 2005 and 2015, 17.5% of all male pts were diagnosed with at least one BSTI.
- Syphilis 7.1%, GC: 7.3% (3.0% rectal, 4.0% urogenital), and CT: 9.0% (4.2% rectal, 5.6% urogenital).
- In 2015, 13.9% of HIV-infected patients and 24.8% of PrEP patients were diagnosed with at least one BSTI.

### Syphilis Trends: Fenway Health

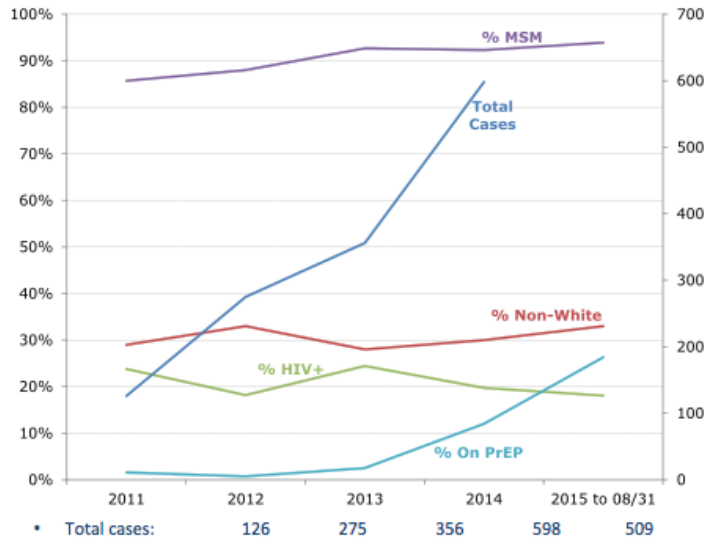


### Gonorrhea Trends: Fenway Health

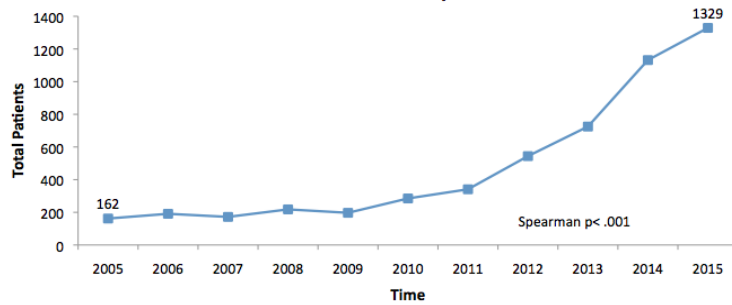


- Total cases: 47 48 96 79 82 65 65 103 71 154 257 446 290

## Chlamydia Trends: Fenway Health

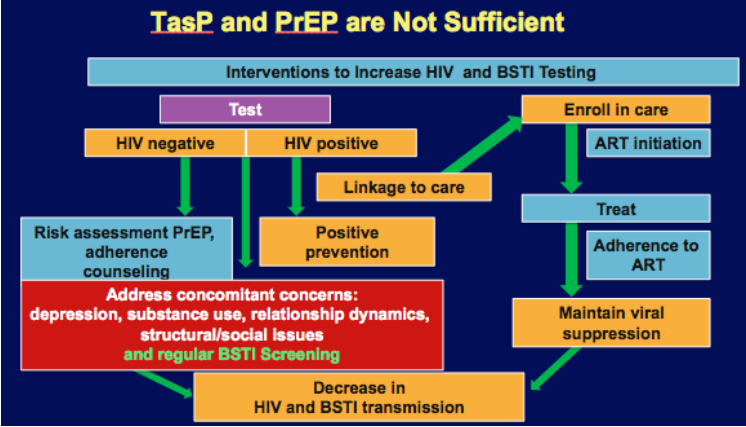


## Incident BSTI at Fenway Health: 2005-2015



## Hazard Ratio (HR) Associated with Diagnosis of a New BSTI

Variable	HR	95% C.I.	
HIV Infection	2.66	2.43	2.92
PrEP Use	3.43	3.07	3.83
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Medicaid	1.25	1.06	1.47
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Insurance status unknown	2.32	1.94	2.76
<b>Time Trend (1 year increments)</b>			
2005-2009	0.97	0.94	1.01
2010-2015	1.36	1.25	1.48



## Thank You

Marcy Gelman  
 Alex Gonzalez  
 Harvey Makadon  
 Rodney Vanderwarker  
 Biomed Team  
 Data Team  
 Medical Department



FENWAY HEALTH

NIAID, NIMH, NIDA, NICHD, CDC, HRSA, Mass DPH, Gilead

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